

Introduction of the digitization software GDgraph

Workshop on EXFOR Compilation (Vienna)

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China Nuclear Data Center
China Institute of Atomic Energy (CIAE)

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Contents

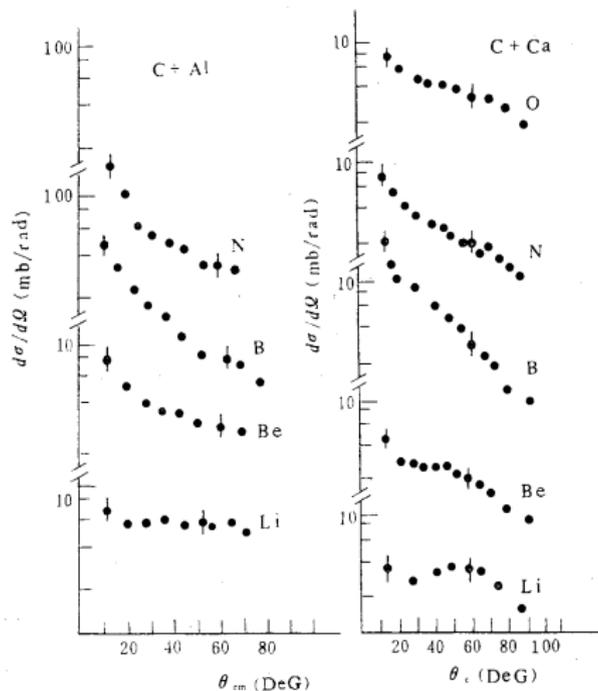
- 1 Introduction
- 2 GDgraph: A graph digitizing software
- 3 Summary

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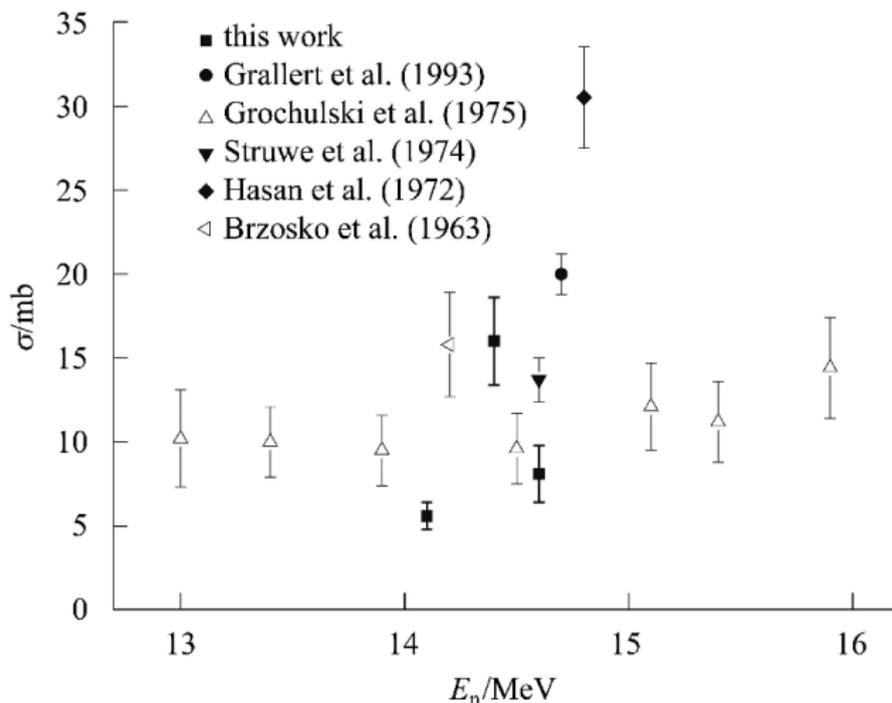
Introduction

- 1 Evaluators & Experimenters always desire experimental data sets (heavy ions)



Introduction

- 2 Data are often published on figures without numerical values



Introduction

③ The quality of figure isn't good enough

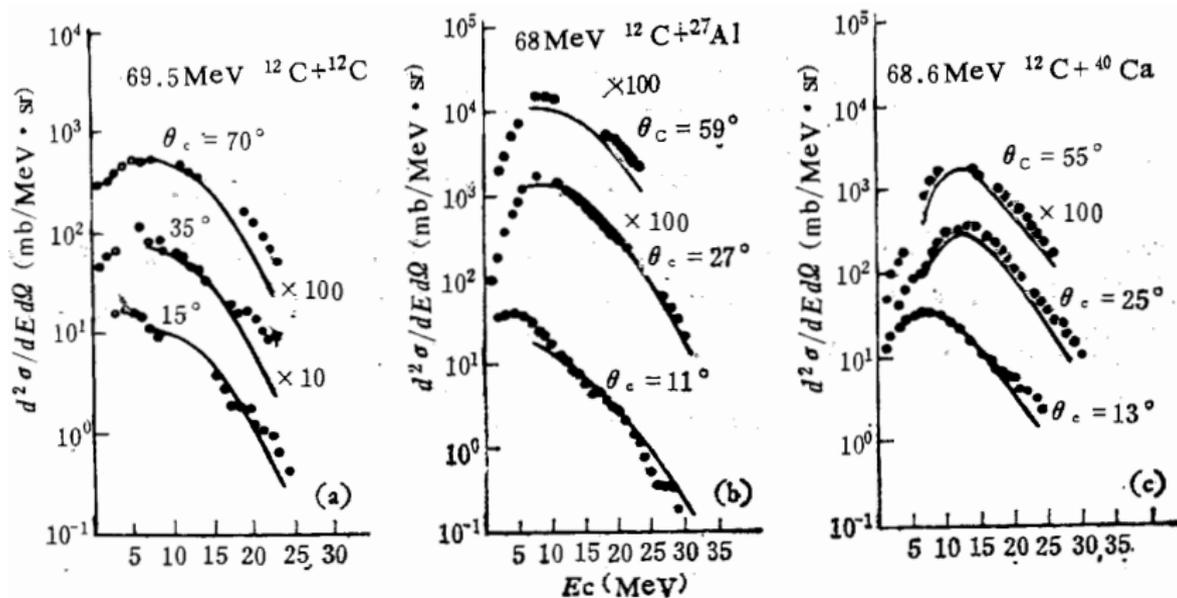


图 3 双微分能谱图 ○是实验点. 曲线是理论计算结果

Introduction

4 Difficult to identify the point in figure

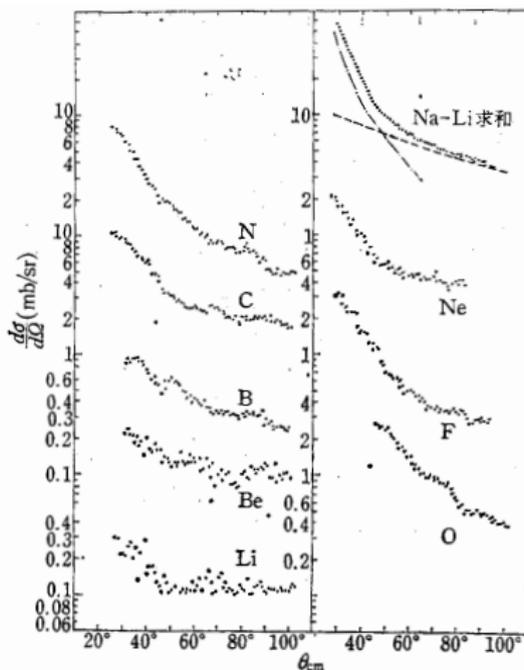


图 2 不同出射元素的对全能谱积分的角分布。图中标 Li—Na 的曲线是对 Li—Na 求和,对全能谱积分的角分布。

Introduction

- 5 Researchers should not waste time to digitize numerical data on publications

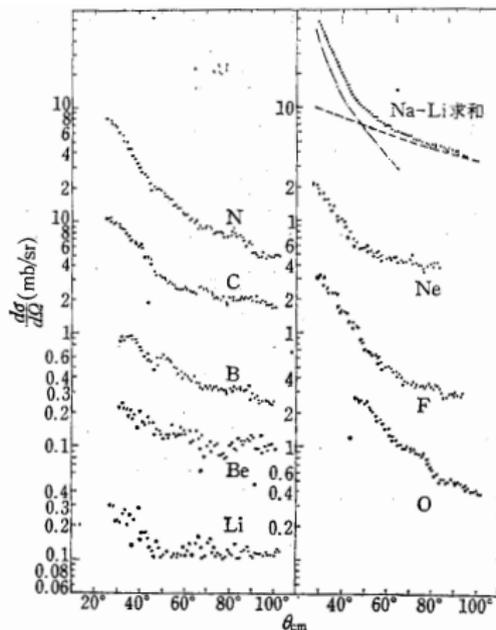


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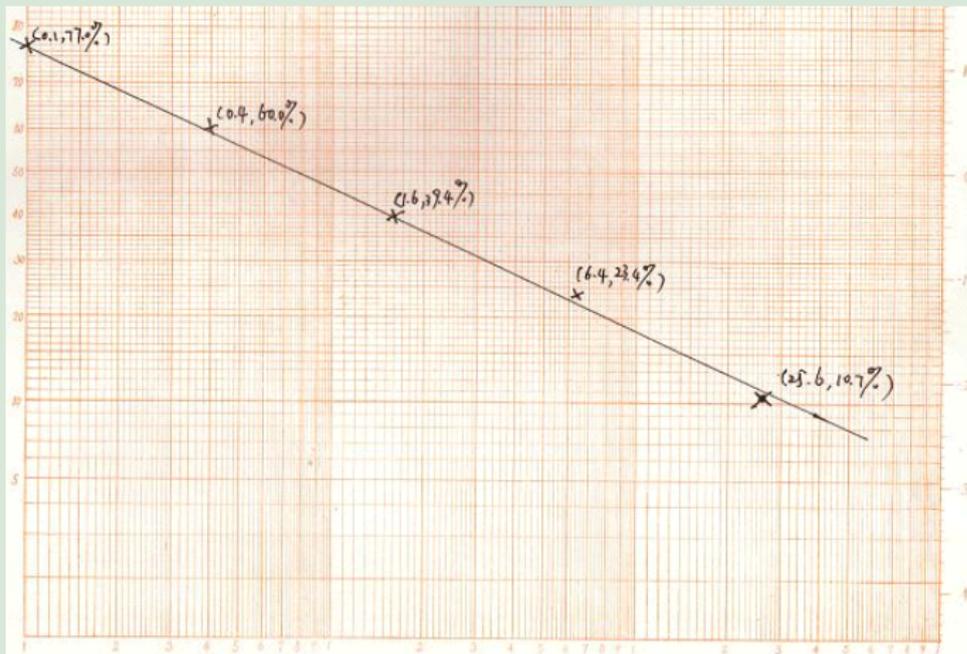
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GDgraph: A graph digitizing software

Short history

1 Requirements from evaluation & measurement



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GDgraph: A graph digitizing software

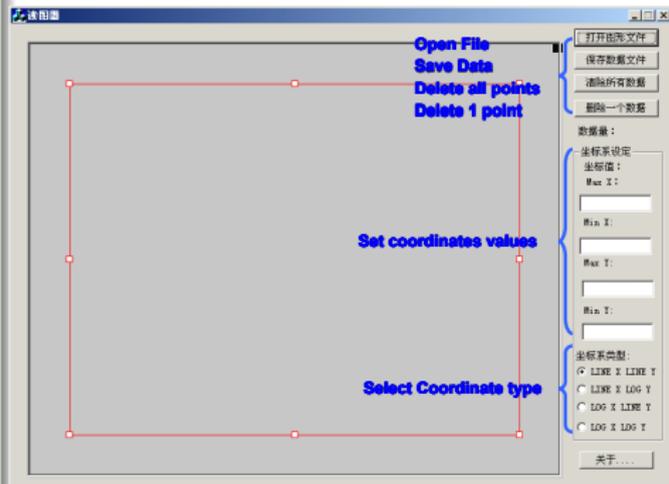
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GDgraph: A graph digitizing software

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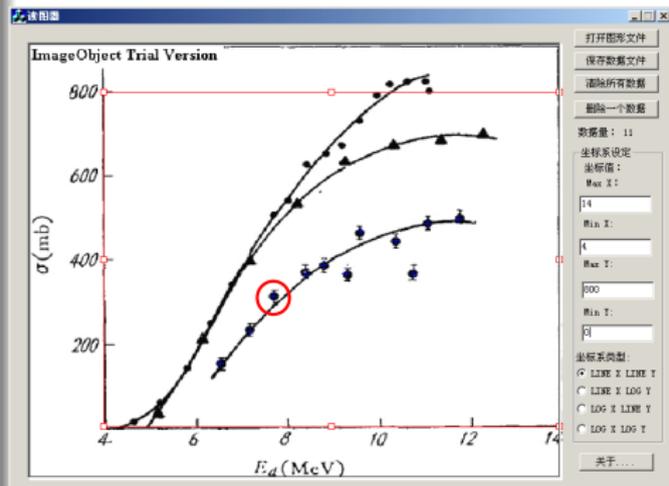
- ① 2001 released, VC++
- ② Mold of GDgraph fits the basic requirements
- ③ BMP file is readed only
- ④ One set data are digitized only
- ⑤ Can't change interface size & move point
- ⑥ No xy-error, can't randomly delete point



GDgraph: A graph digitizing software

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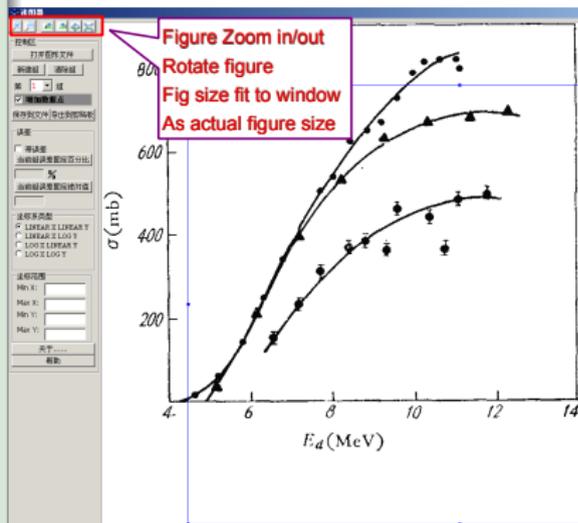
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GDgraph: A graph digitizing software

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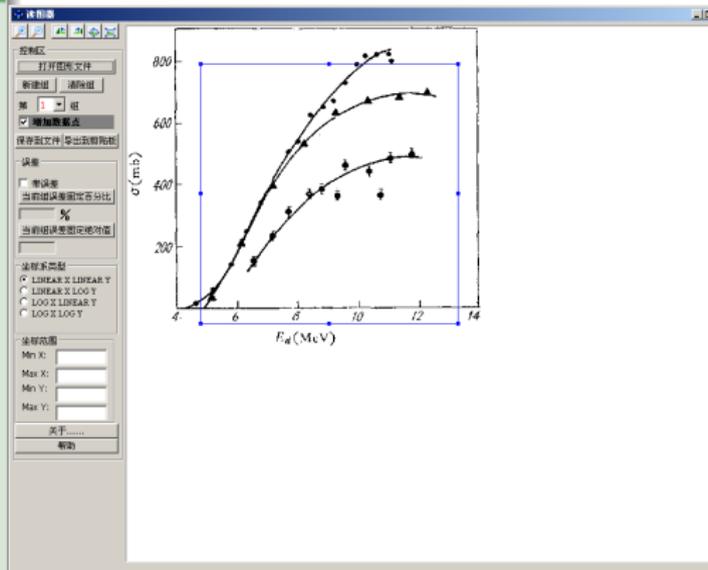
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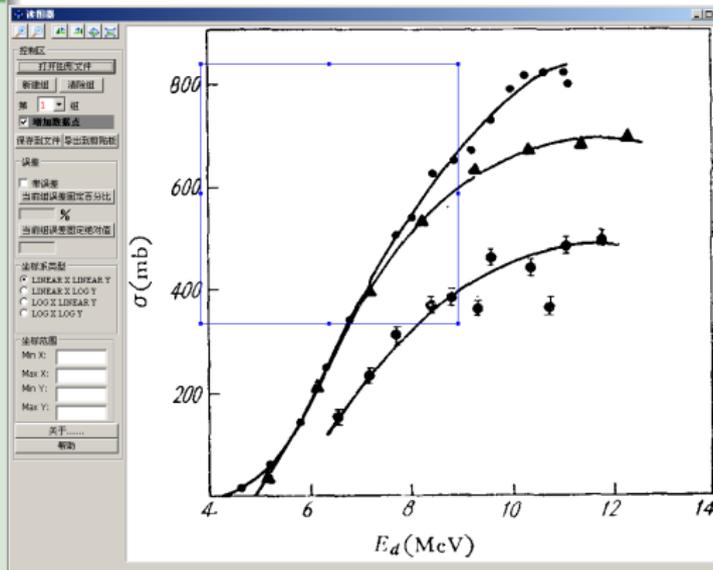
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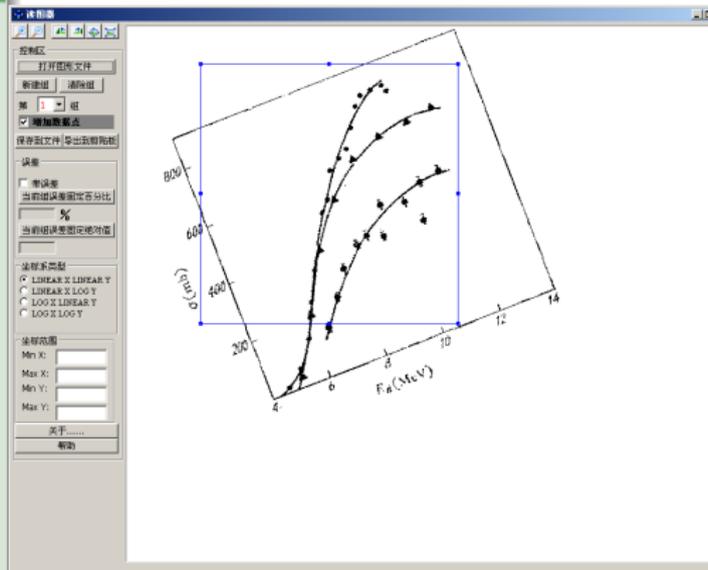
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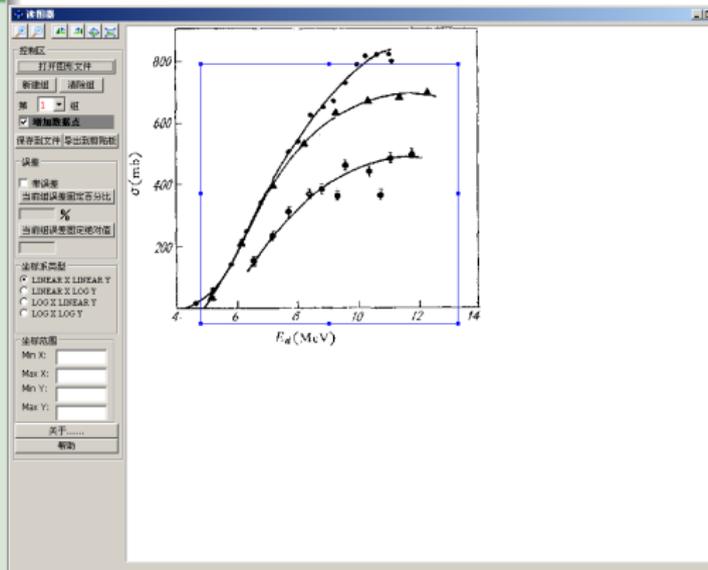
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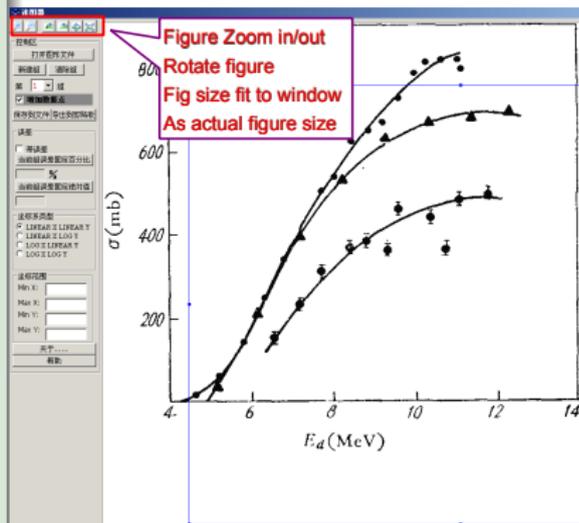
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GDgraph: A graph digitizing software

GDgraph-2.0

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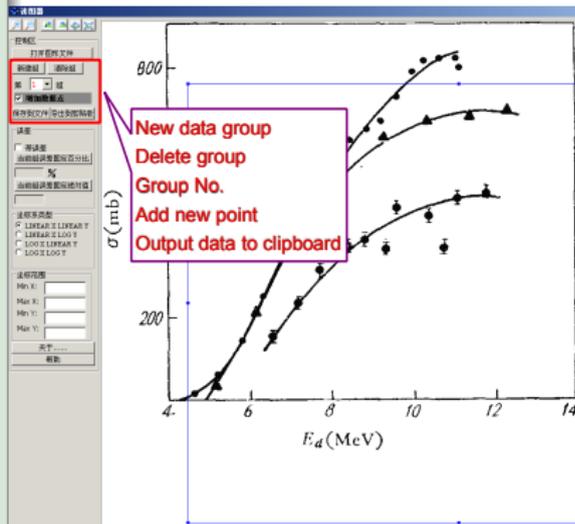
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- Blue, red & green represent

8 Add/move point by mouse

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10 Digitize y error with mouse

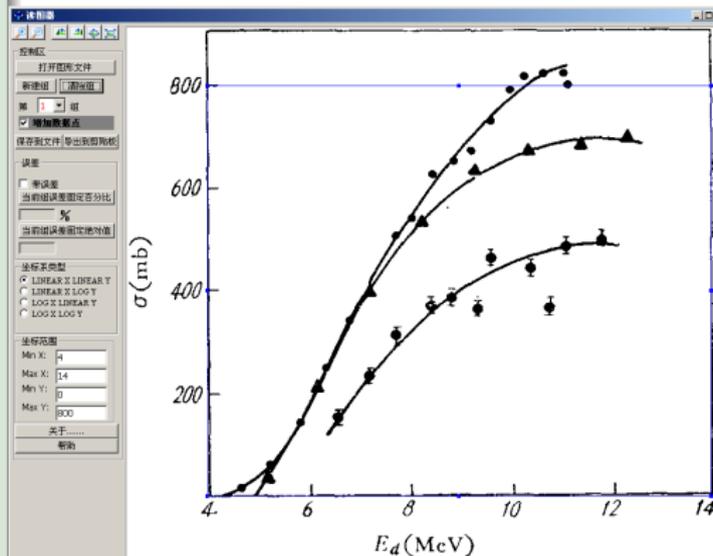
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GDgraph: A graph digitizing software

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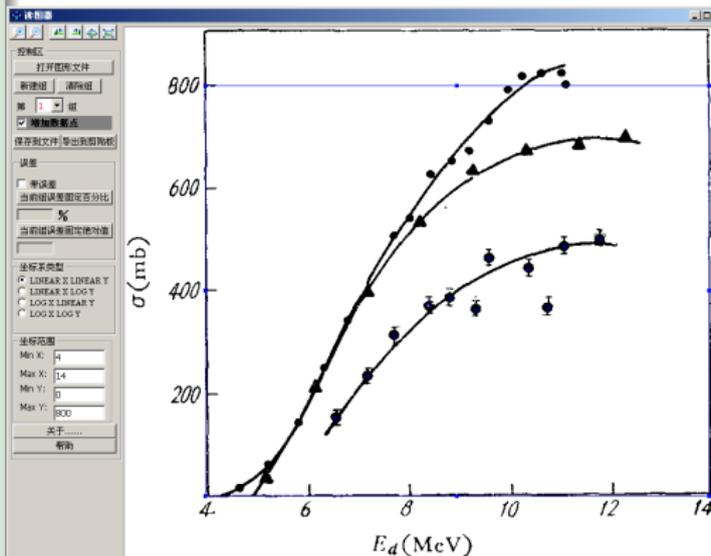
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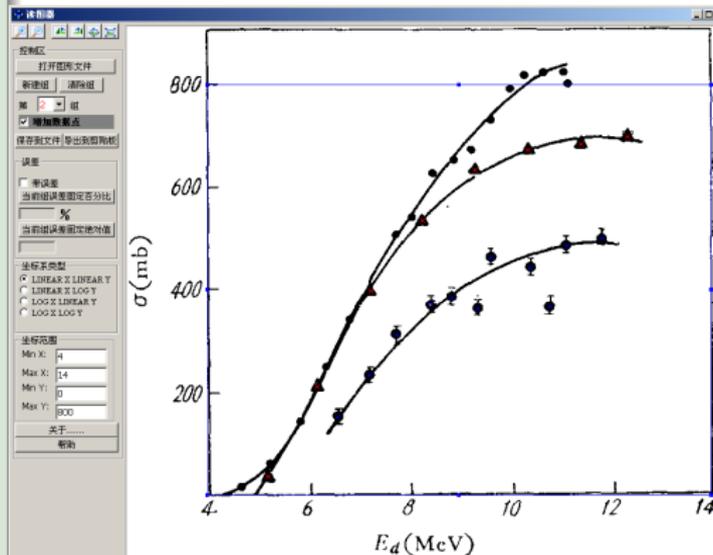
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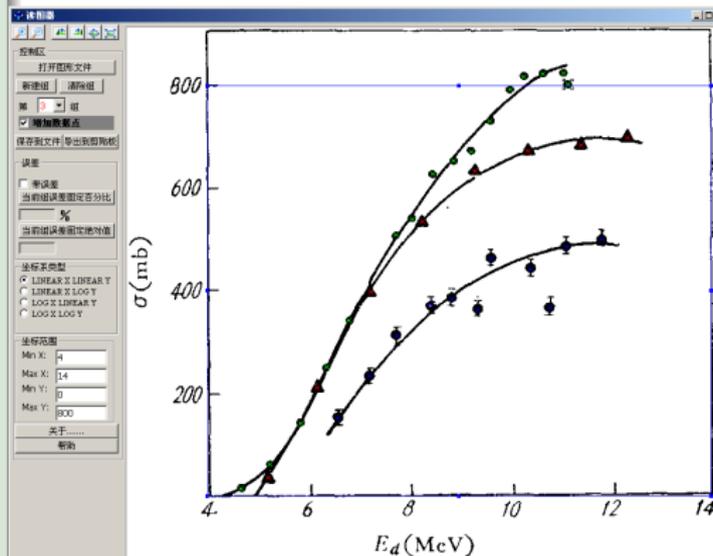
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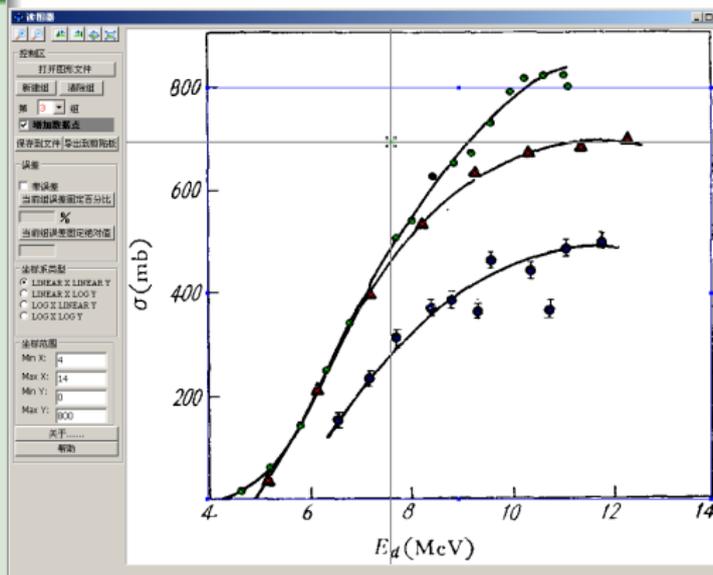
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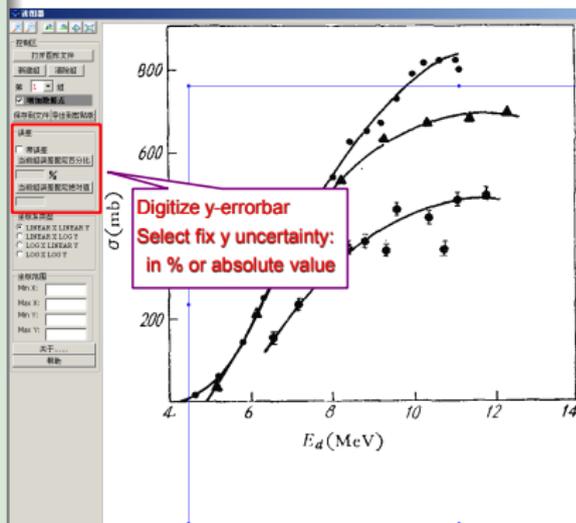
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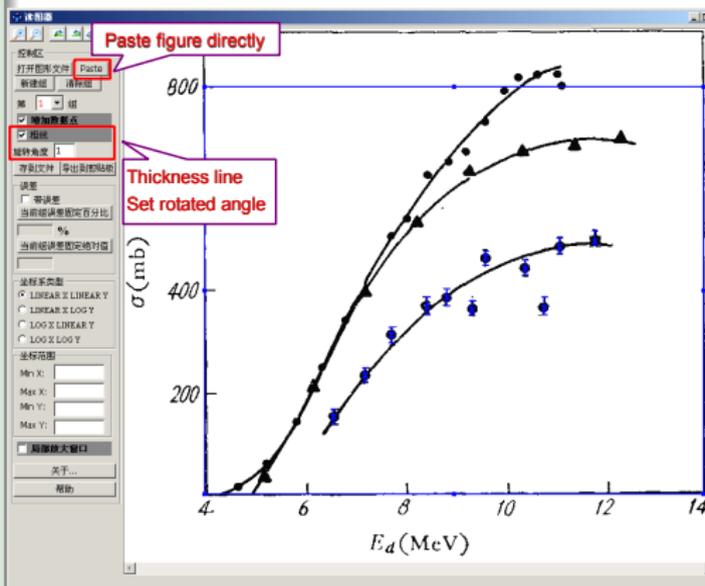
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GDgraph: A graph digitizing software

GDgraph-3.0

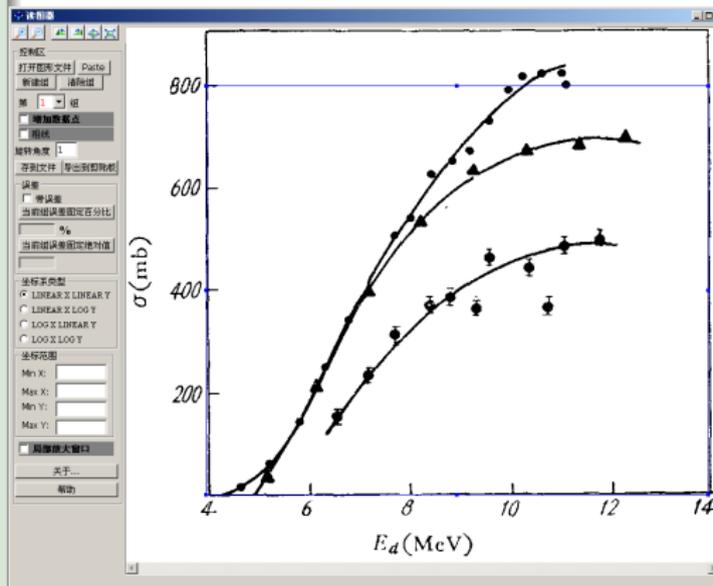
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- ③ Select thin/thick line
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GDgraph: A graph digitizing software

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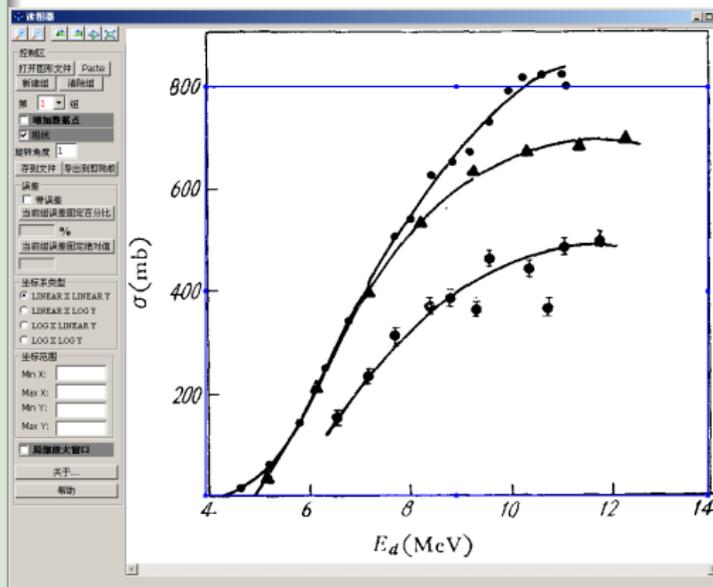
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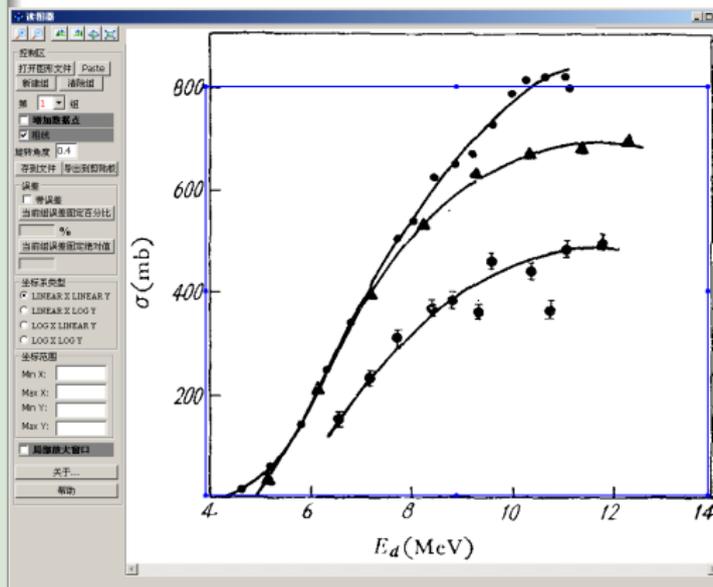
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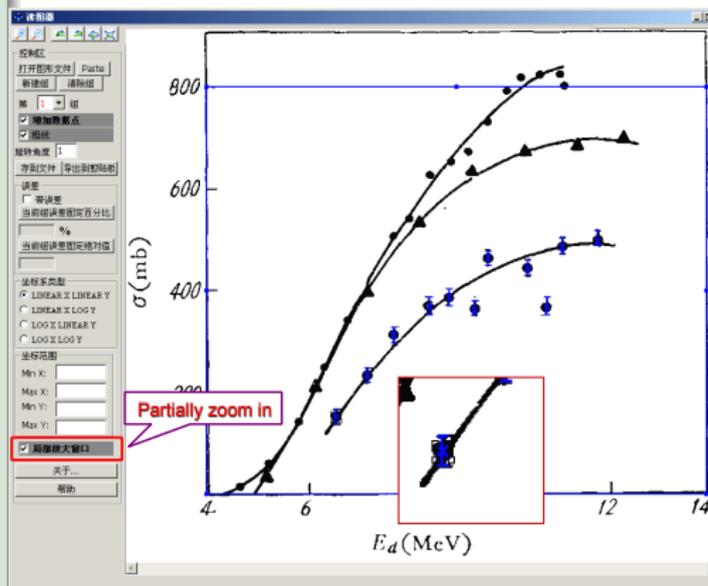
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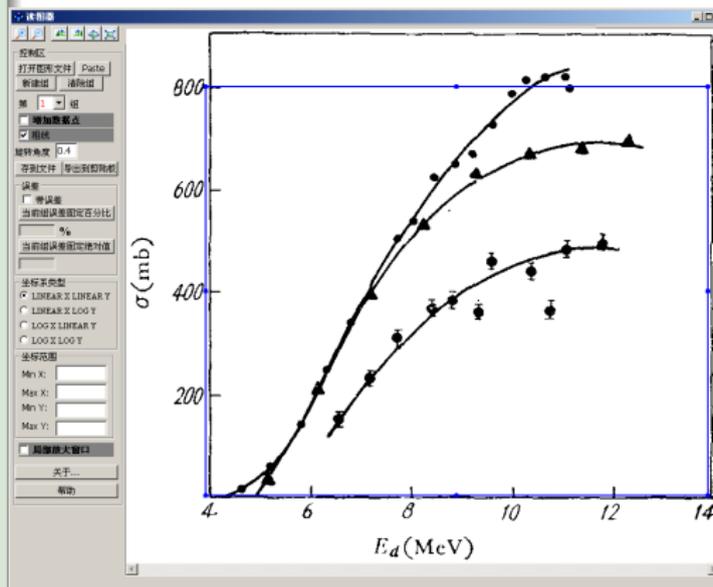
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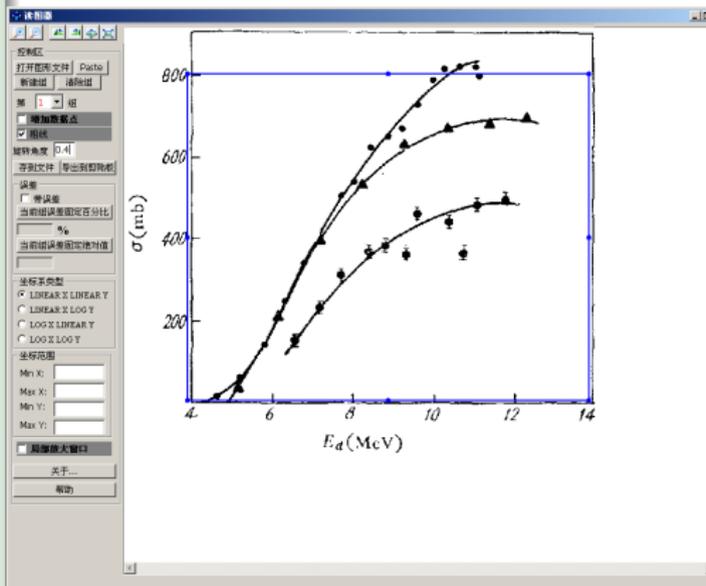
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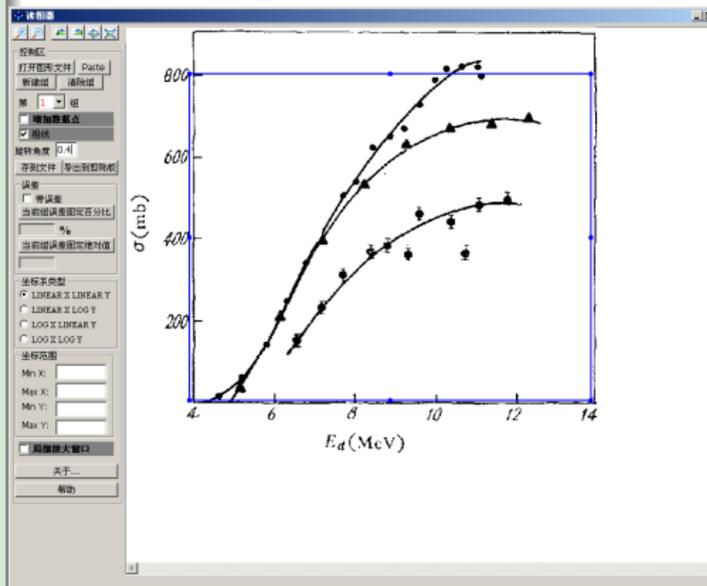
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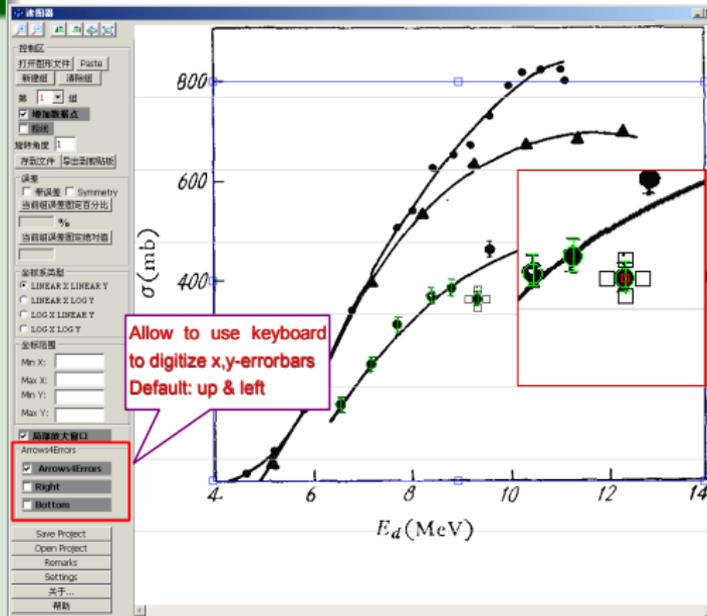
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GDgraph-4.4

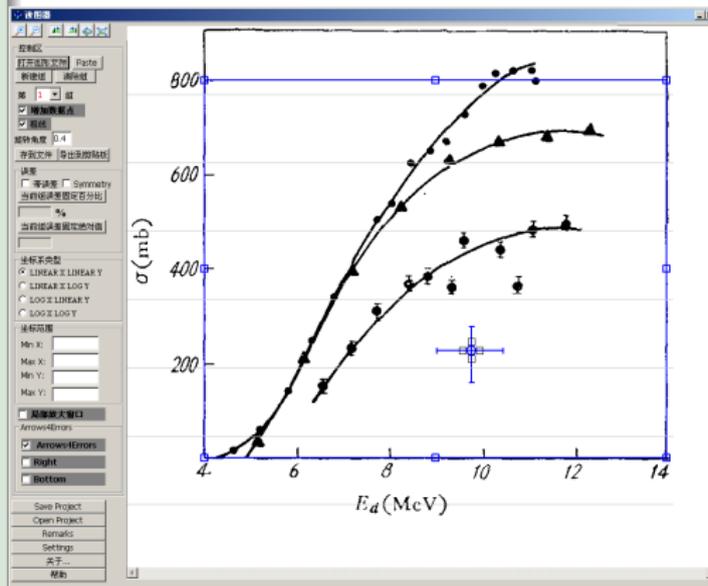
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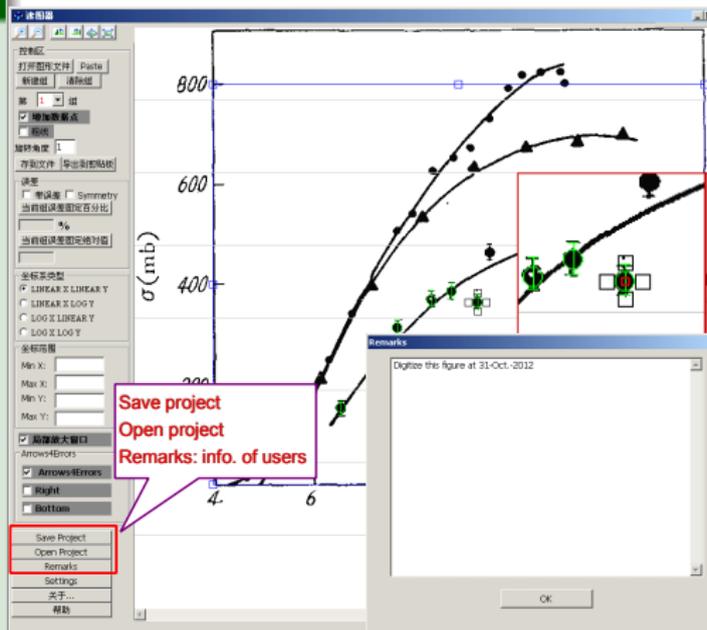
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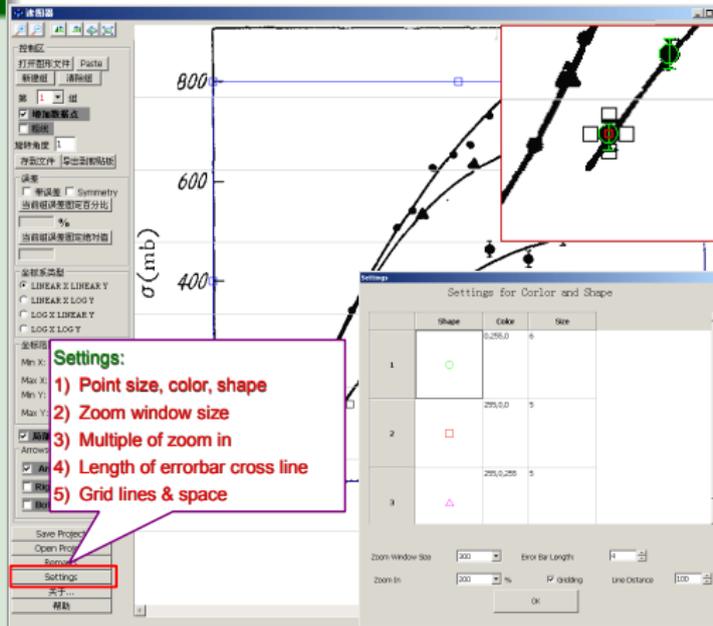
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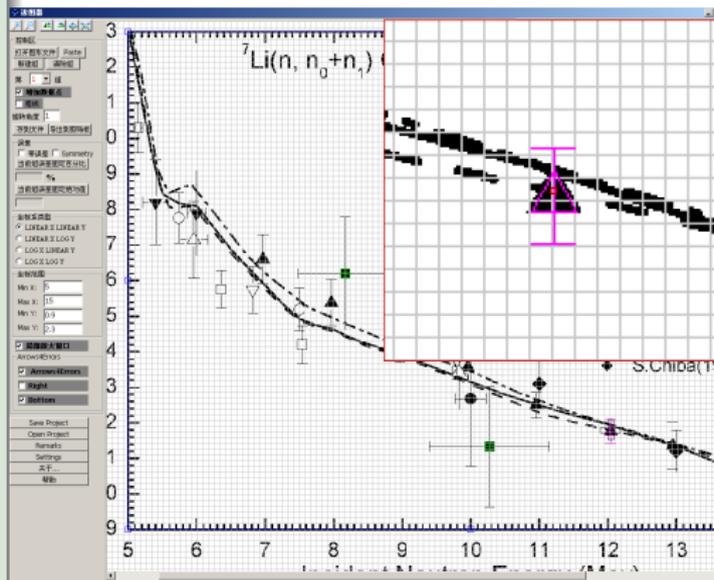
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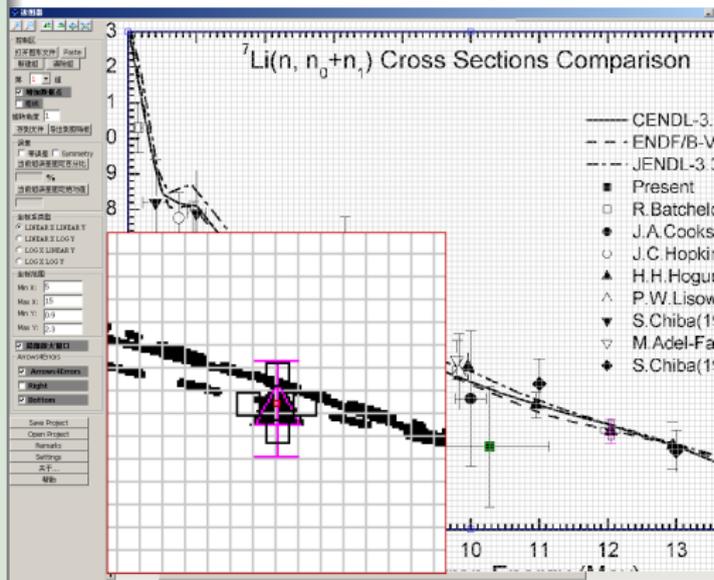
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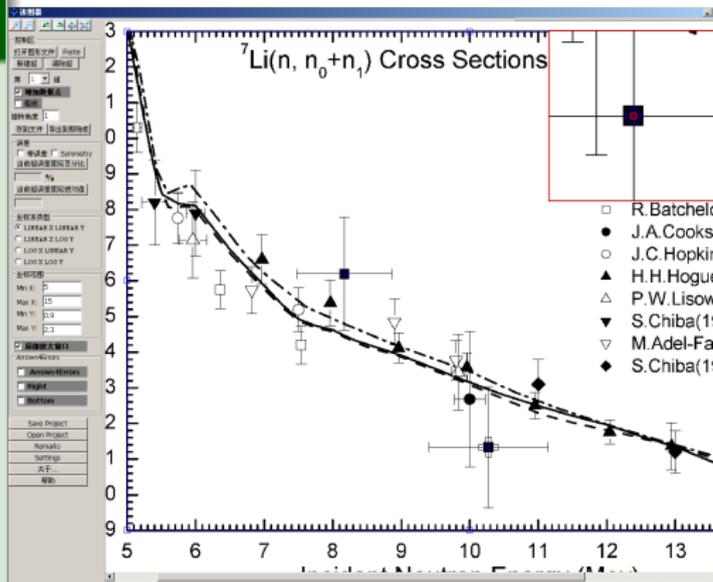
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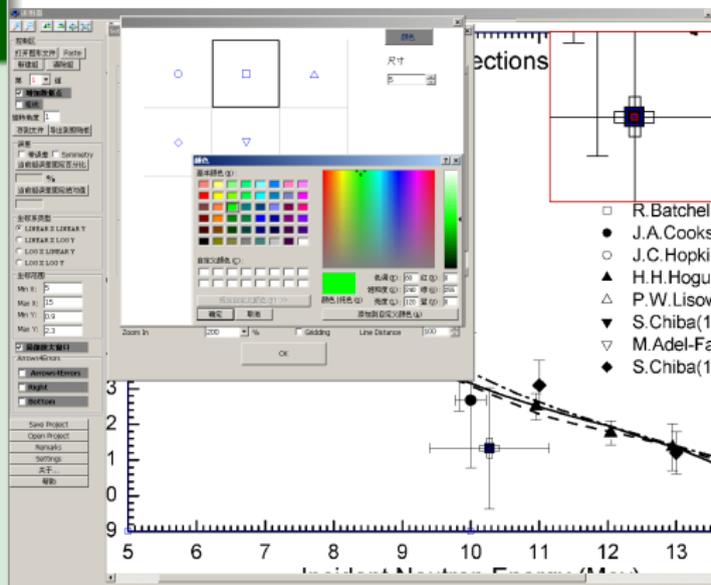
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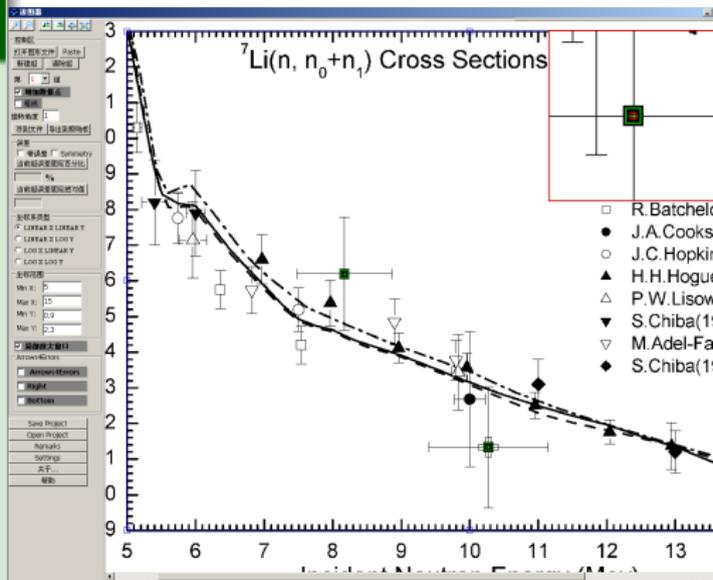
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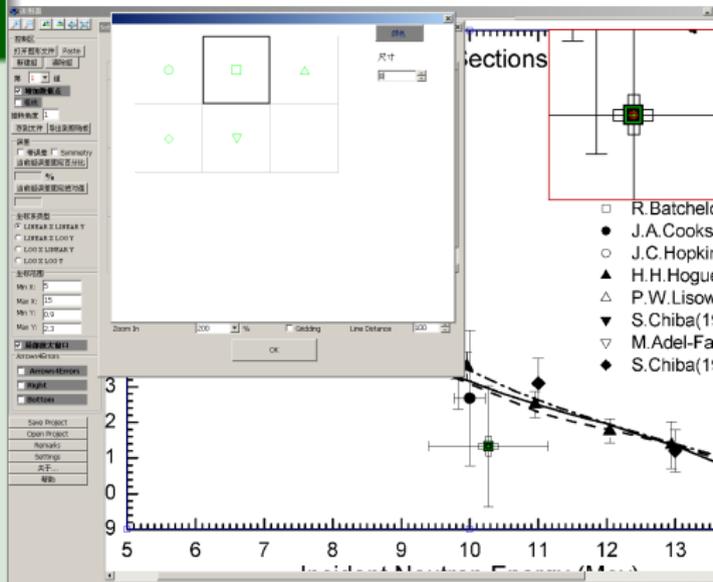
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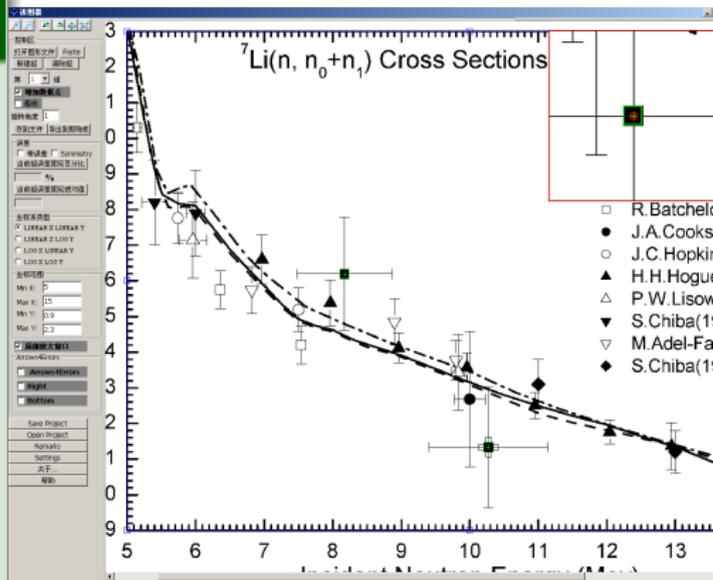
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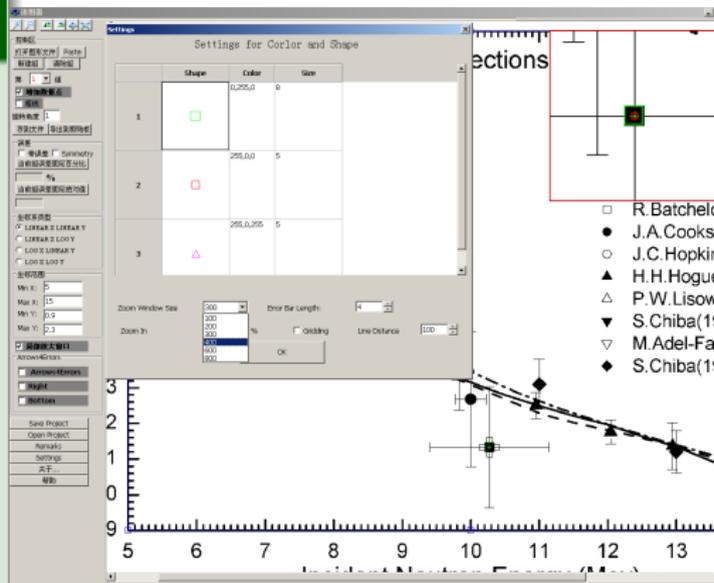
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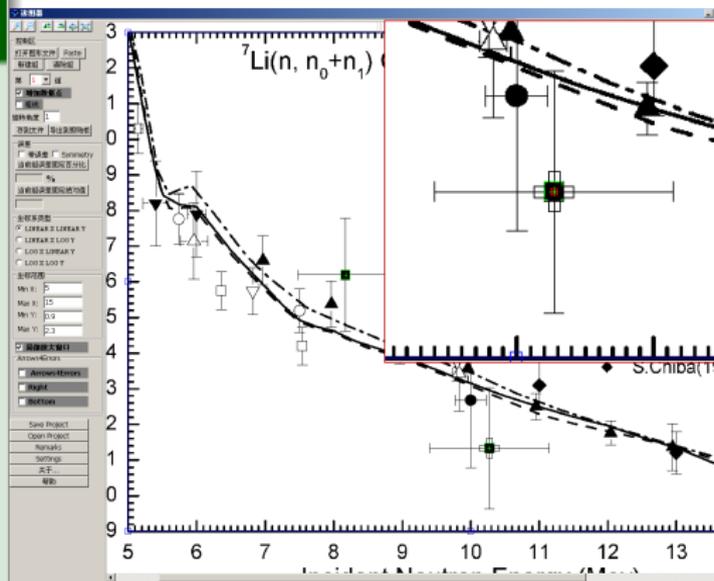
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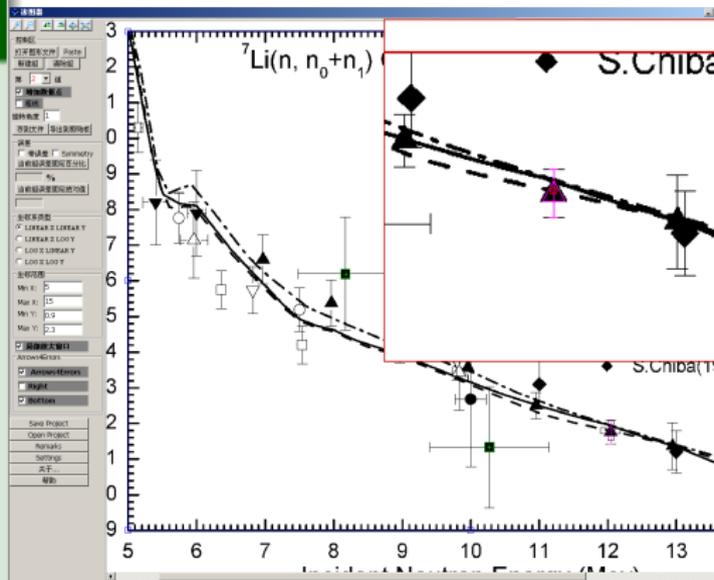
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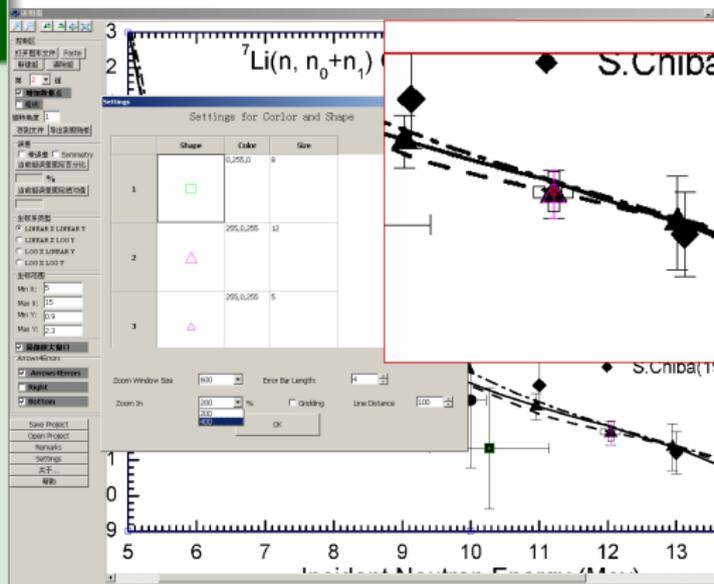
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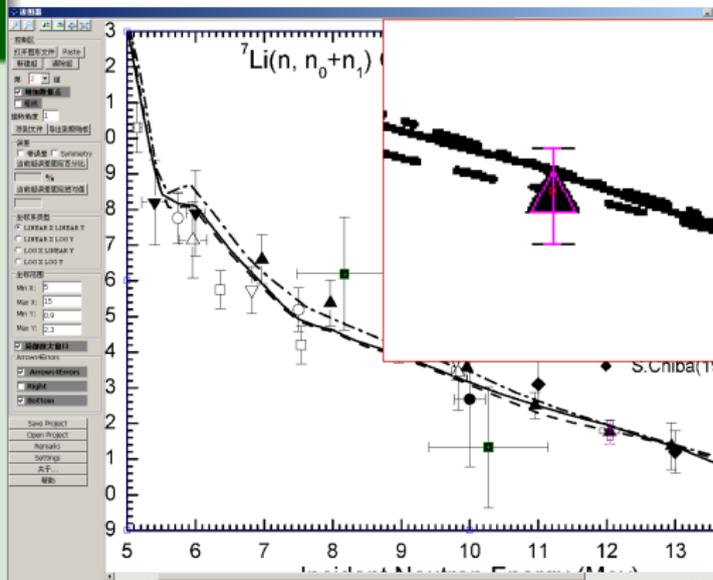
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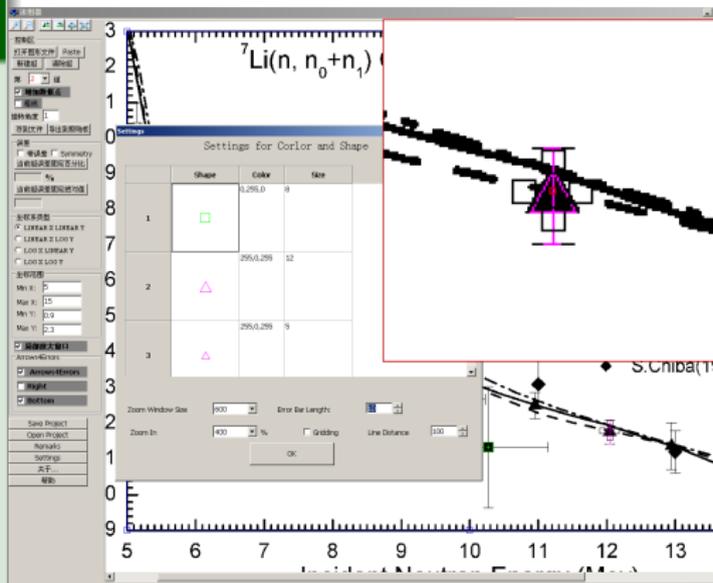
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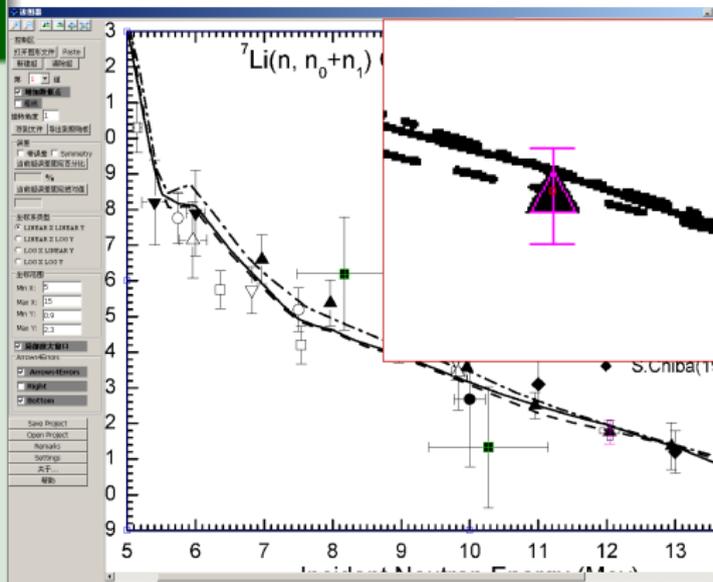
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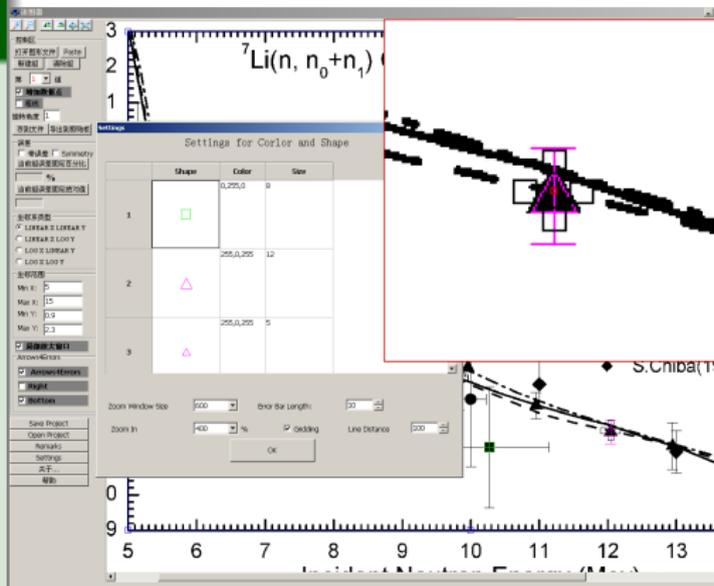
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GDgraph: A graph digitizing software

GDgraph-4.4: Setting Function

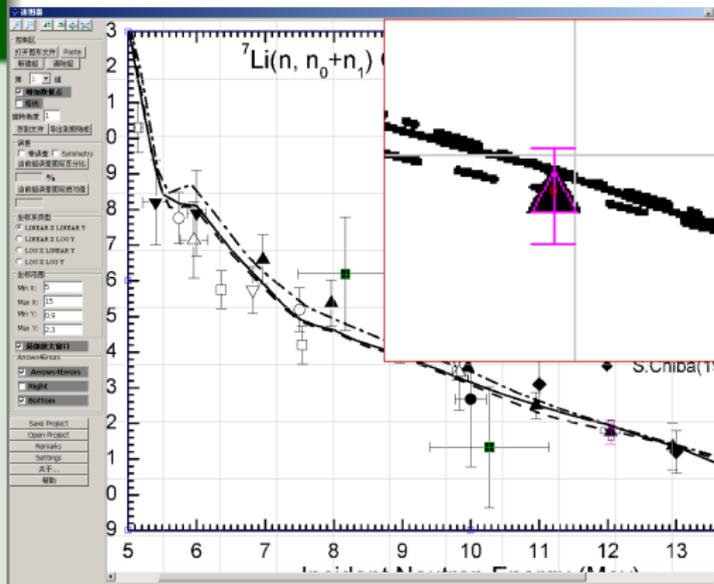
- ① Point symbol
- ② Point color
- ③ Point size
- ④ Zoom-in window size
- ⑤ Multiple of zoom in
- ⑥ Length of errorbar cross line
- ⑦ **Grid line & space**



GDgraph: A graph digitizing software

GDgraph-4.4: Setting Function

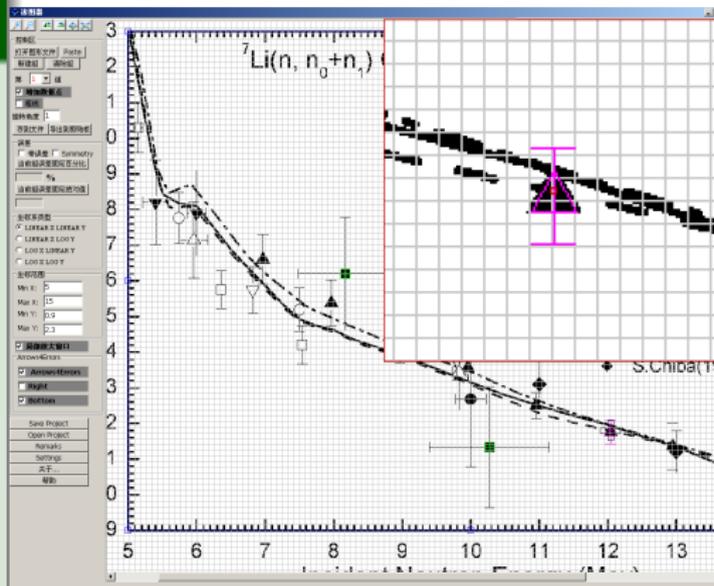
- 1 Point symbol
- 2 Point color
- 3 Point size
- 4 Zoom-in window size
- 5 Multiple of zoom in
- 6 Length of errorbar cross line
- 7 **Grid line & space**



GDgraph: A graph digitizing software

GDgraph-4.4: Setting Function

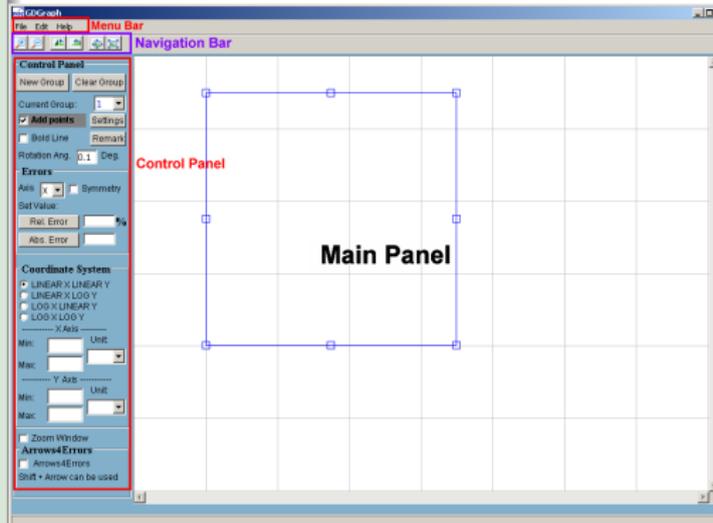
- 1 Point symbol
- 2 Point color
- 3 Point size
- 4 Zoom-in window size
- 5 Multiple of zoom in
- 6 Length of errorbar cross line
- 7 **Grid line & space**



GDgraph: A graph digitizing software

GDgraph-5.0

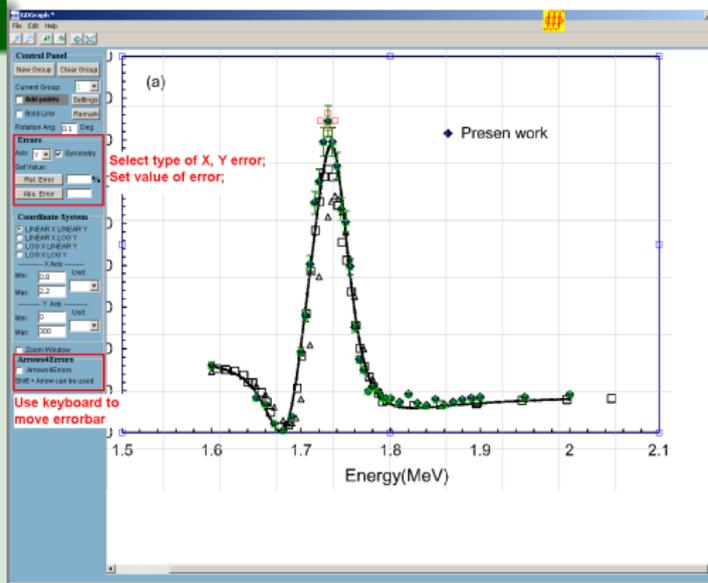
- ① Update at 2013, Perl
- ② Chn → Chn&Eng
- ③ GUI: Dialogue → Single Doc. Inter.
- ④ Update Project func.
- ⑤ X,Y error in symmetry & asymmetry
- ⑥ Set X,Y error in abs. or %



GDgraph: A graph digitizing software

GDgraph-5.0

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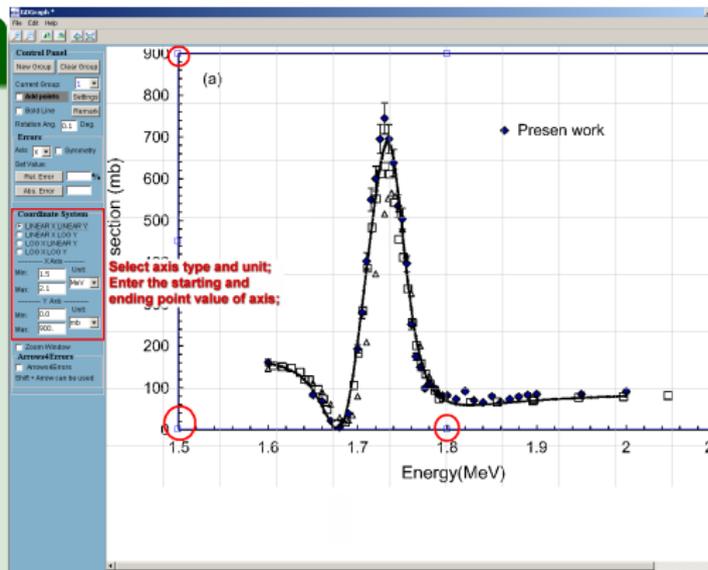
GDgraph: A graph digitizing software

GDgraph-5.0

7 Set unit for coordinate

8 Add output data format

9 Use "Pageup" & "Pagedown" to select Pre. or Next point



GDgraph: A graph digitizing software

GDgraph-5.0

- 7 Set unit for coordinate
- 8 Add output data format
- 9 Use "Pageup" & "Pagedown" to select Pre. or Next point

Settings

Settings for Color and Shape

	Shape	Color	Size
1		0,0,255	5
2		255,0,0	5
3		255,0,255	5

Zoom Window Size: Error Bar Length:

Zoom In: % Gridding Line Distance:

Output Data Format:

X: Y:

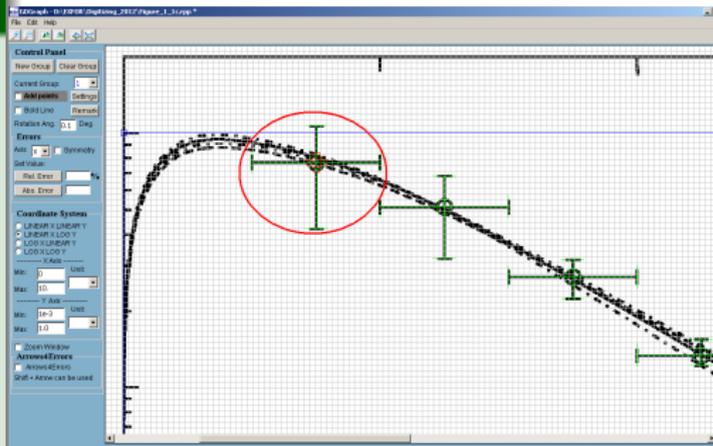
Sample data:

OK

GDgraph: A graph digitizing software

GDgraph-5.0

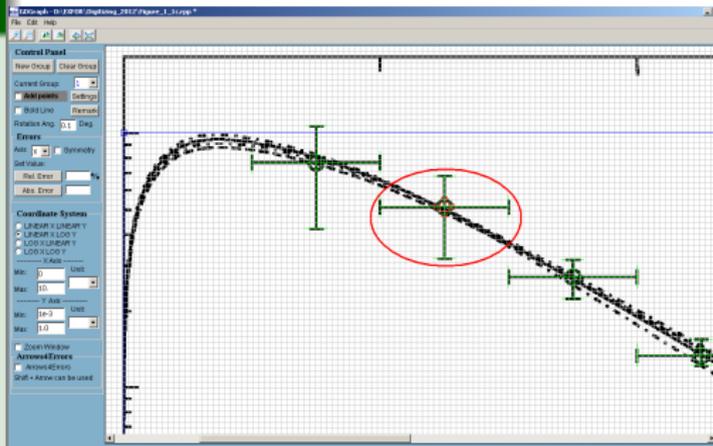
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GDgraph: A graph digitizing software

GDgraph-5.0

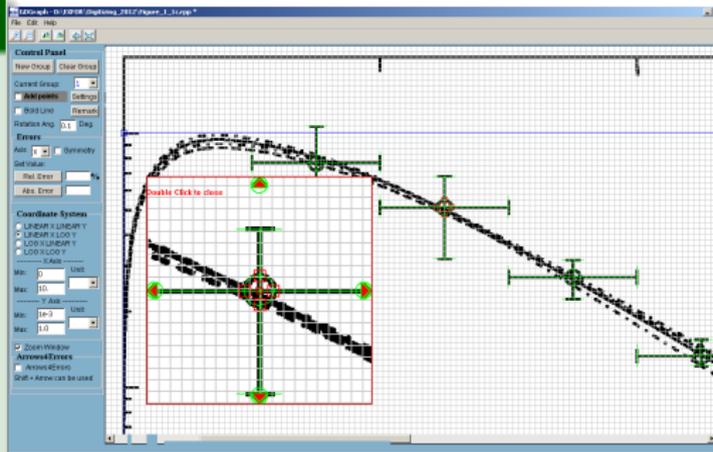
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GDgraph: A graph digitizing software

GDgraph-5.0

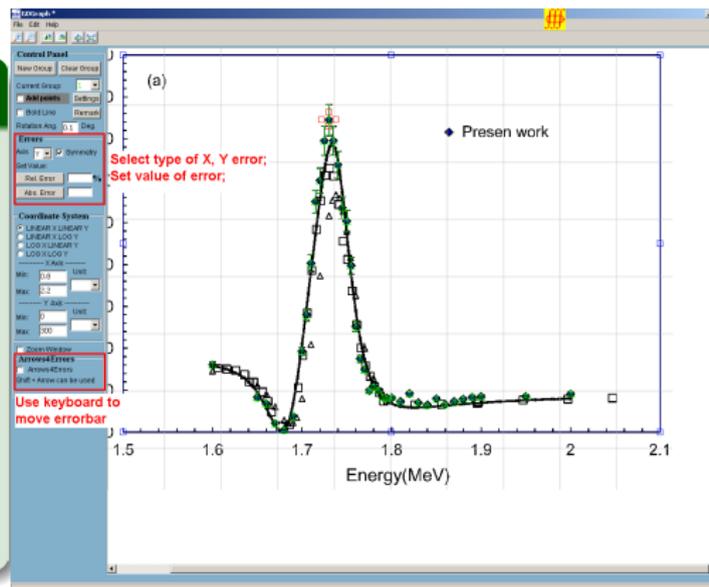
- ⑩ **Modify magnifying glass window**
- ⑪ Add shortcut keys to digitize error
- ⑫ Add "Import data" function



GDgraph: A graph digitizing software

GDgraph-5.0

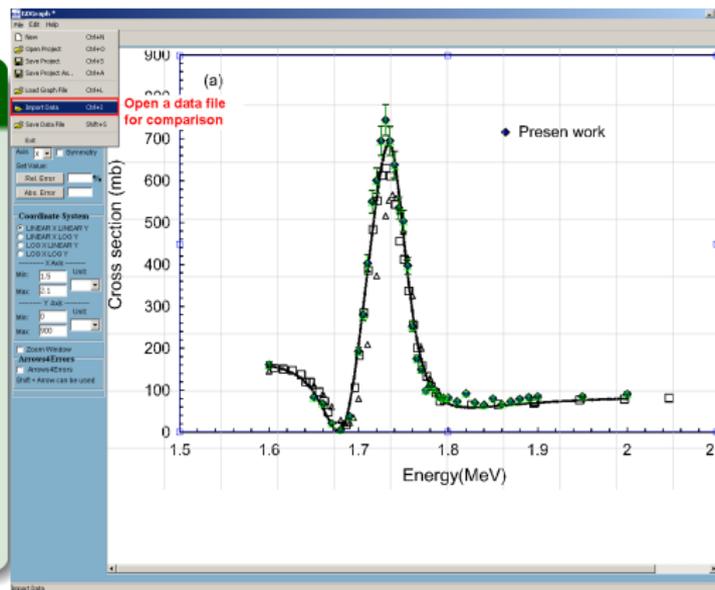
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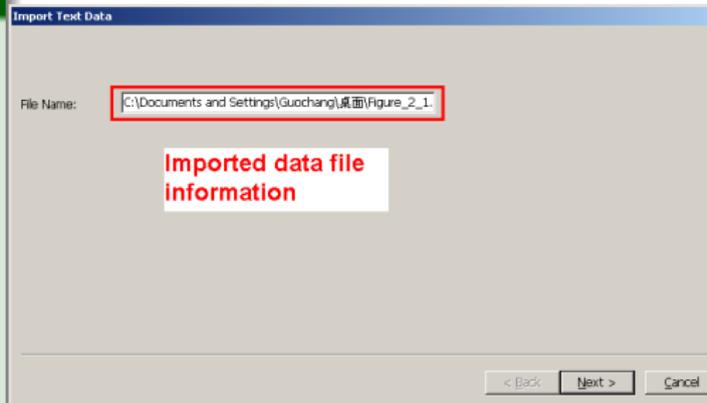
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GDgraph: A graph digitizing software

GDgraph-5.0

- 10 Modify magnifying glass window
- 11 Add shortcut keys to digitize error
- 12 Add "Import data" function



GDgraph: A graph digitizing software

GDgraph-5.0

- ⑩ Modify magnifying glass window
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Import Text Data

Control Label: put the label on the first of the line. **Set different labels to separate different contents**

Data Label: | # Title Label: | #

Text Label: | | all lines after this label will be discard until data label is found.

Contents: revised directly

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	1.599985e+000	1.612304e+002	7.883212e+000	7.883212e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000
2	1.450022e+000	8.314911e+001	4.129301e+000	4.129301e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000
3	1.460046e+000	6.794578e+001	3.941606e+000	3.753910e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000
4	1.469984e+000	2.102190e+001	0.000000e+000						
5	1.480009e+000	6.193952e+000	0.000000e+000						
6	1.490033e+000	3.791449e+001	0.000000e+000						
7	1.499971e+000	1.933264e+002	9.384776e+000	9.760167e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000	0.000000e+000

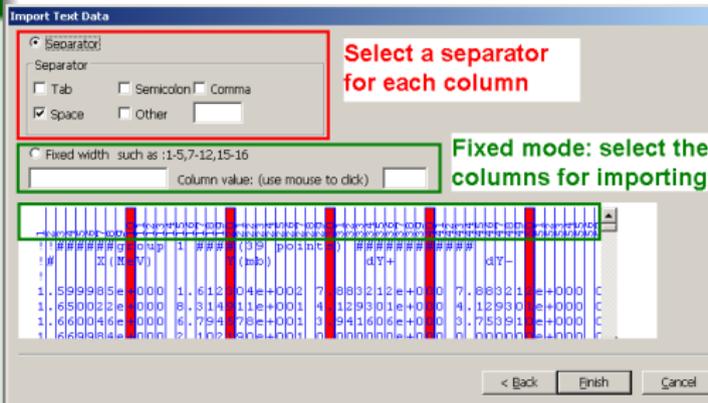
Data content panel

< Back Next > Cancel

GDgraph: A graph digitizing software

GDgraph-5.0

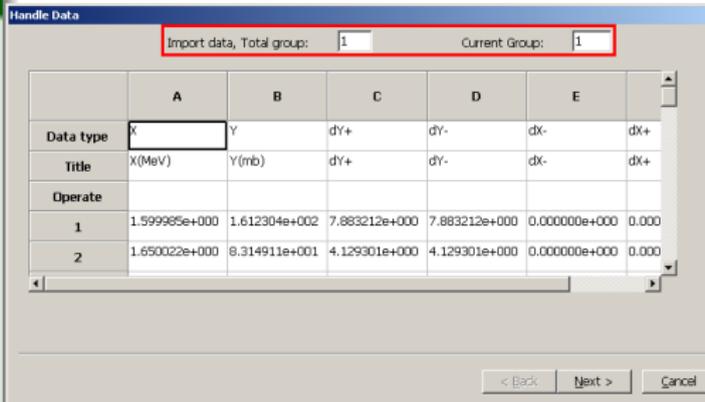
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GDgraph: A graph digitizing software

GDgraph-5.0

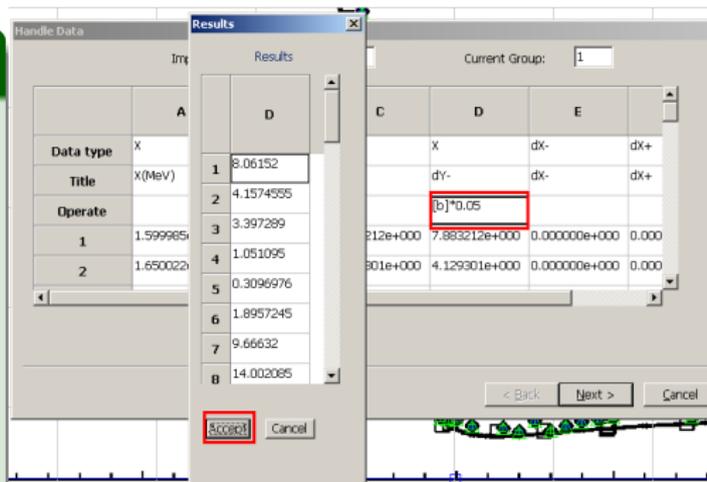
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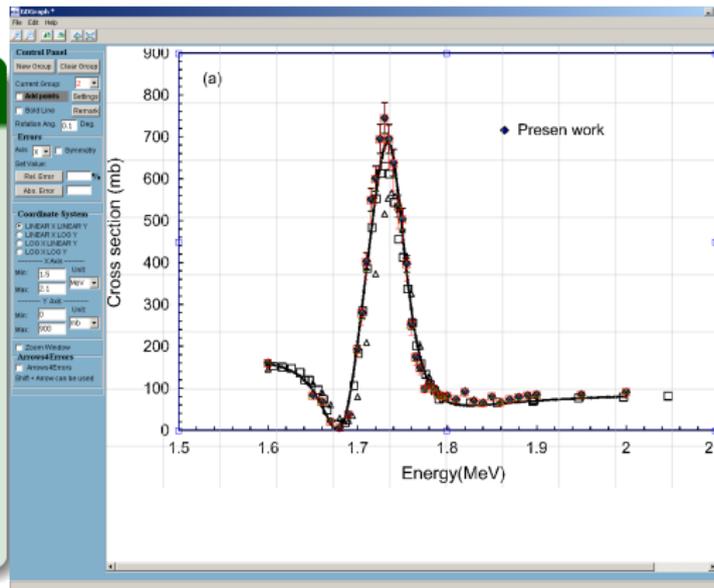
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GDgraph: A graph digitizing software

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Contents

- 1 Introduction
- 2 GDgraph: A graph digitizing software
- 3 Summary**

Summary

- 1 Requirements from evaluation and measurement for developing digitization software
- 2 GDgraph: a software is developed for digitization since 1997
- 3 Present version is fit for digitization requirements
- 4 Some bugs and functions should be developed in future such as symbols, automatic searching axis, ...
- 5 Adopt good characters and functions from other softwares

Thank you for your
attention!

Welcom to China!

